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Exploring the Role That Overconfidence Plays in the Degradation of Financial Capability

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Abstract:
Traditional finance theory suggests that market participants are rational and make decisions that are bound by logic and forethought. In contrast, behavioral finance theory recognizes that people do not always follow a rational pattern when making investment and financial decisions. Financial knowledge and skills shape an individual's financial behavior. Biases, heuristics, and framing effects can prevent an individual from behaving rationally. A bias is a predisposition toward an error; heuristics are a basically "rule of thumb," and framing effects influence decisions based a prescribed belief and how the information is presented. These combined result into overconfidence, which is the propensity for individuals to believe they possess superior skills in given situations. Overconfidence is the primary recurring theme in past behavioral finance studies relating to the degradation of financial capability.

Keywords: Behavioral finance, overconfidence, financial planners

1. Introduction

Traditional finance theory suggests that market participants are rational and make decisions that are bound by logic and forethought (Garcia, 2011). Traditional finance theory also provides insight into how investors should act in a given situation when presented with facts and important information (Garcia, 2011). This belief in traditional financial theory should be further enhanced by increased financial literacy education (Luusardi &Mitchell, 2014). In contrast, behavioral finance theory recognizes that people do not always follow a rational pattern when making investment and financial decisions. Thaler and Barberis (2003) found that individuals may make decisions based on how information is presented even when they are trained or educated to make more rational decisions. This exploratory study is designed to determine the role that certain behavioral finance biases play in hindering financial behavior.

The definition of financial literacy can be divided into both conceptual definitions and operational ones. The conceptual terms include knowledge of financial concepts, ability to communicate about financial concepts, ability to make appropriate financial decisions, and confidence in making sound financial decisions for your future. The operational definition of financial literacy looks at measurable criteria. The scope of defining financial literacy attempts to assess an individual financial behavior; financial knowledge and skills shape an individual's financial behavior. Financial education leads to more financial literacy, which also shapes financial behavior (Franczek & Klimontowicz, 2015). Financial capability is evidenced by behaviors that are financially sound. These types of bias include excessive optimism, overconfidence, confirmation bias, status quo bias, hindsight bias, recency bias, conservation, mental accounting, regret aversion, and illusion of control. There are a few behavioral finance biases, heuristics, and framing effects that prevent an individual from making the best financial decision (Shefrin, 2007). Heuristics include representativeness, availability, anchoring, causality, attribution, substitution, and affect. The framing effects are loss aversion, herd mentality, money illusion, and aversion to a sure loss (Moten & Copeland, 2017). A clear definition of the different types of biases can be seen in Table 1.

Bias Term	Definition
Excessive optimism	The inclination of an individual to downplay the possibility of negative outcomes and over emphasize the possibility of positive outcomes (Moten and Copeland, 2017).
Overconfidence	The propensity for an individual to believe that they possess superior skills.
Confirmation bias	Asserts that individuals look for information to verify their beliefs.
Illusion of control	Individuals believe that they can control more than they actually have the ability to control.
Status quo bias	Individuals prefer not to take action in order to continue the same trend.
Hindsight bias	Individuals unrealistically believe they would have predicted an event thatoccurred even though it would have been nearly impossible to foresee.
Recency bias	The illogical tendency to make decisions based on what has happened in recent memory.
Conservatism	Occurs when an investor fails to react quickly in the face of new information.

Table 1: *Definitions of Different Types of Biases*

1.1. Heuristics

Heuristics serves as learning aides that help solve problems especially through trial and error. A clear definition of heuristic terms is presented in Table 2.

Heuristic Term	Definition
Representativeness	A way of thinking that places thoughts into categories. This is an example where errors might occur from misclassifying.
Availability	The mental shortcut of relying on what most readily comes to mind when making decisions.
Anchoring	The propensity to rely on the first number or piece of information (an anchor).
Affect	The mental shortcut when individuals rely on their emotional response to a situation to make a decision.
Causality	Occurs when individuals wrongly attempt to infer cause from an effect.
Attribution substitution	Occurs when individuals have to make a decision about something more complex and instead make a decision about a similar, easier substitute.
Source: Moten & Copeland, 2017	

Table 2: Definitions of Different Heuristic Terms

1.2. Framing Effects

The framing effects is how people react differently to a choice based on how it is presented or framed. Table 3 provides a list of different types of framing effects.

Framing Effects	Definition
Loss aversion	Occurs when individuals feel losses more strongly than they do gains.
Herd mentality	Occurs when behavior of others irrationally influences another.
Disposition effect	Occurs when investors sell securities when prices increase while maintaining a portfolio of losers.
Money illusion	Occurs when someone has difficulty factoring the effects of inflation into investment decisions.

Table 3: Instances of Framing Effects and Their Definitions
Source: Moten & Copeland, 2017

2. Literature Review

2.1. Financial Literacy, Financial Knowledge and Financial Capability

Fraczek and Klimontowicz (2015) used the results of a pilot survey conducted in 2013 and 2104 on selected European countries to assess the level of financial literacy among young individuals. The authors looked at young individuals because they are important in the development of an economically healthy society. The study participants were 181 young people from Finland (37), Latavia (57), Spain (41), and Poland (46), which represented different banking markets. The article looked at the changing financial markets and the complexities of savings and investments, which required individuals to gain financial skills.

The primary purpose of the study was to examine the correlation between the level of financial knowledge and behavior in the banking market. Fraczek and Klimontowicz used the same 8 question survey instrument used by Atkinson and Messy(2012). The results of the survey suggested that younger individuals who received financial literacy education possess a higher level of financial knowledge. Those with low levels of financial literacy exhibits poor consumer behavior.

Gustman, Steinmeier, and Tabatabai (2010) used data from the Health and Retirement Study to examine the relationship between cognitive ability as it relates to numeracy, wealth, and income. The study suggested that the more money in an individual account the more financial knowledge they had. It appears that pension wealth led to pension knowledge. The study contradicts the notion that numeracy knowledge leads to more wealth creation. The finding of this study suggested that wealth leads to more knowledge and not the other way around. Individuals with higher pension limits saved more for retirement. There is no evidence that knowledge of pensions is related to having non-pension assets. Unless numeracy positions investors to obtain pensions and create a specific learning experience, the study suggested that numeracy is not the kind of advantage that would be consistent with rational decision-making.

Saboe-Wounded Head (2015) conducted a study to identify the relationship between culture, socioeconomic status, community infrastructure and financial knowledge on Native American students. Previous studies on high school students found that there is a disparity in financial literacy between ethnic groups. Most prior studies looked at Caucasian, African American, and Hispanic students. Those studies suggested that Caucasian students usually possess a higher level of financial literacy than other ethnic groups. This higher level of knowledge usually corresponded to increased financial capability and rational consumer behavior. Saboe-Wounded Head(2015) looked at the fact that even with mandated financial literacy education programs in high schools, financial literacy is not increasing to a passing grade of70% for Native American high school students. Results of the study suggested that there is a statistically significant difference in financial literacy based on socioeconomic status, community infrastructure and culture. However, there was no noted statistically significant difference in financial behavior when compared to the independent variables. The results of the study have many future implications for financial educators. Financial literacy education should be more targeted to factor in the different cultural experiences of different ethnic groups.

Huston (2010) attempted to distinguish between financial literacy, financial knowledge and financial education. In literature, these terms are interchanged, which is a part of the problem. To conduct the analysis, Huston looked at literature over the last 10 years to differentiate between the terms. The lack of consistency in defining a financial knowledge measure made it difficult to assess financial literacy well-being. Regardless of the inconsistency, a construct is needed to improve consumers' abilities to make sound financial decisions. Health literacy was measured by a standardized test, yet there is no universal measurement for financial literacy. The Huston search of literature suggested that a more effective survey instrument could assess financial literacy more accurately with the goal of improving financial behavior. However, some other non-high school related literature suggests that formal high school financial literacy education programs are not effective, while other studies show a positive relationship between financial education programs and financial literacy. This inconsistency in results indicate that not all financial education programs offer the same level of educational value. The results of this study suggested that there is a need for a successful way to measure of financial literacy. Once there is an appropriate and more consistent measure of financial literacy, it needs to be taken further. Huston posits that financial literacy assessments only measure knowledge but does not ensure rational behavior will follow.

Lusardi and Mitchell (2014) explored financial literacy through an economic lens. In economics, financial knowledge results from acquiring specific human capital. A financially literate society is necessary to promote an economically healthy society. In traditional economic theory, it is suggested that consumers are well informed and make rational decisions. However, many empirical studies suggest that consumers do not always act rationally. When many retirement plans were defined benefit plans, there was little need for investment education. By looking at acquiring financial literacy as a contribution to an individual human capital, there is more importance placed on receiving financial literacy education.

Lusardi, Mitchell, and Curto (2010) obtained results from a financial literacy survey using the most recent wave of the 1997 National Longitudinal Survey of Youth. They found that less than one-third of young adults possess basic knowledge of risk management, interest rates, and inflation. After further investigation, it was determined that an individual's level of financial literacy is directly related to socio demographic characteristics and family financial sophistication. College educated males with parents who had retirement plans and stocks scored significantly higher than females who only had high school education and impoverished parents. The results of their study suggested that financial literacy can be improved through education. Since high school students possess low levels of financial literacy, there must be other opportunities for them to gain more financial knowledge. Perhaps colleges and employees can provide financial literacy education programs to assist youth for making sound retirement and investment decisions.

Moten (2011) studied the result of the 2008 biannual financial literacy study conducted by Jump $start for financial literacy. The survey was conducted with 6,856U.S. high school students from 388 schools across the United States. A two-way ANOVA supported the hypothesis that there are significant differences in financial literacy based on ethnicity, $F_{(3, 1101)} = 19.78$, $p < .001$ and income level, $F_{(3, 1101)} = 4.988$, $p < .002$. A second two-way ANOVA supported the hypothesis that there was a significant interaction between ethnicity and income, $F_{(9, 1101)} = 4.851$, $p < .001$, on financial literacy. The results of the simple main effects test and subsequent Tukey post hoc analyses suggested that as income increased, financial literacy scores increased, except among African American students. The results for that group indicated that as income increased,

financial literacy scores decreased. Even with states mandating that a financial literacy course be taught, financial literacy was not improved. Further research is needed to determine when financial literacy should be introduced into the K-12 curriculum and if there is a need for standardized teacher education in financial literacy.

Potrich, Viera, and Kirch (2015) conducted a financial literacy study using 1400 individuals living in Rio Grande do Sul, Brazil. The three constructs that were used were financial attitude, financial behavior, and final knowledge. The study used gender, marital status, number of dependents, occupation, family education level, and income. The results suggested that single women with low levels of income possess the least amount of financial literacy. Marginal effects were positive and statistically significant atthe usual levels for the variables: gender, individual income, and family income. The results of the paper suggested that the groups with the lowest financial literacy levels were women who had low levels of education and income and dependent family member(s). Their research suggested that a financial literacy courses should be taught in all undergraduate programs regardless of major and also should be infused in all facets of society.

Silgoner, Greimel-Furhrman, and Weber (2015) conducted a study using 2000 individuals in Australia to assess their level of financial literacy based on demographic and socioeconomic factors. The results of the study were consistent with previous studies, which suggested that individual with low levels of education and income possess the least amount of financial literacy.

2.2. Behavioral Finance Biases Studies

Some studies have been conducted to determine whether financial knowledge may support behaviors that lead to financial satisfaction. Robb and Wood yard (2011) examined the relationship between objective and subjective financial knowledge, financial satisfaction and income, education, age, race, and ethnicity. Financial satisfaction was measured using the response to a single question on the Financial Industry Regulatory Authority's (FINRA) study. The study used data from the FINRA study with a sample size of 1,488 participants. After the elimination of unusable values for key variables, the number of cases analyzed was 1,466. The results suggested that subjective knowledge has a greater impact on financial satisfaction than objective financial knowledge. The results also point to the importance of adding behavioral exercises to go along with the acquired knowledge. Knowledge alone is not sufficient enough to assist consumers in making more rational financial choices. Income level played a significant role in financial behavior concerning objective measures. However, financial knowledge and self-confidence played significant roles with regards to subjective financial measure. Individuals exhibited overconfidence in their financial abilities regardless of their actual level of competence.

Campbell (2016) conducted research on five types of finance ignorance to determine if education or nudges from financial professionals had a greater impact on financial capability. The results of his study suggested that financial literacy education is too broad and may not fully address specific issues. However, disclosures or nudges by financial professionals are more specific and appear to have the greater impact on financial capability. Results also suggest that overconfidence plays a significant role in hindering an individual's application of knowledge gained through financial literacy education.

Garcia (2011) examined past research on how behavioral finance affected the application of information in making decisions. Initially finance decision-making was studied in the construct of traditional financial theory. Traditional financial economic theory suggests that individuals make rational decision based on known information. However, due to behavioral biases, optimal financial decisions are not always adhered to. There were two recurring themes, which included overconfidence, and bounded rationality in judgment, whereby inferences about situations are drawn in an illogical manner. Bounded rationality is the idea that individuals make decisions, limited by their rationality and manipulability of the decision problem, the cognitive limitations of their minds, and the limited time available to make the decision.
Rostaami and Dehaghani (2015) found that overconfident investors do not use history as a guide. They ignore past performance based on beliefs that they are superior investors. Statman, Thorley, and Vorkink (2006) reported that overconfident investors make more equity trades than rationally necessary. Trehan and Sinha (2014) concluded in their behavioral finance study using participants in the Indiana Stock exchange that self-attribution is the leading factor in investors overconfidence. Self-attribution bias occurs when people attribute successful outcomes to their own skill but blame unsuccessful outcomes on bad luck (Shefrin 2007).

Onsomu (2014) conducted a study using the Nairobi Securities Exchange (NSE) in Kenya. Investors were asked if they felt that they could accurately predict stock market movements. Forty-seven percent of respondents felt that they could outperform the market. Even though the sample size was small, it provided insight into investor sentiment about their market timing abilities.Kafayat (2014) conducted a study using the Islamabad Stock exchange that found that investors who are overconfident also make suboptimal decisions and outcomes do not outpace expectations.

3. Conclusion

Overconfidence and a lack of basic financial knowledge have been recurring themes in past behavioral finance studies relating to the degradation of acquired financial literacy and knowledge. Overconfidence is the propensity for individuals to believe that they possess superior skills in given situations, which can cause a person to experience financial problems because they may not prepare properly for a situation or they hold a preconceived belief about their superior financial ability. Financial literacy educators need to account for this bias when presenting financial literacy education. Students and investors should be reminded about the difficulty of making accurate market predictions. Further research is needed to determine how

effective this proposed change in curriculum could be given that these behaviors are internalized and can vary among different socioeconomic groups due to self-attribution. Financial planners and advisors can also benefit from further research because clients may sometimes deviate from prescribes plans due to overconfidence.

4. References

i. Atkinson, A., & Messy, F. (2012). Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study.OEC Working Papers on Finance, Insurance and Private Pensions, 15, 1-72.

ii. Barberis, N.,& Thaler, R. (2003). A survey of behavioral finance. In G.M. Constantinides, M. Harris, & R. M. Stulz (Eds.), Handbook of the economics of finance (pp. 1053-1128, Vol. 1).Amsterdam, The Netherlands: Elsevier.

iii. Campbell, J.Y. (2016). Restoring rational choice: the challenge of consumer financial regulations (Working Paper 22025).National Bureau of Economic Research.

iv. Fraczek, B. & Klimontowicz, M. (2015). Financial literacy and its influence on young customers' decision factors.Journal of Innovation Management, 3(1), 62-84.

v. Garcia, M.J. (2011). Financial education and behavioral finance: New insights into the role of information in financial decisions. Journal of Economic Survey, 27(2), 297-315.doi:11.1111/j.1467-6419.2011.00705x

vi. Gustman, A.L., Steinmeier, T.L.,& Tabatabai, N. (2010). Financial knowledge and financial literacy at the household level (Working Papers 1-52). Ann Arbor, MI: University of Michigan Retirement Research Center.

vii. Saboe-Wounded Head, L. (2015). Influences on financial knowledge and behavior. Journal ofConsumer Education, 30, 59-74.

viii. Huston, S.J. (2010). Measuring financial literacy. Journal of Consumer Affairs,44(2), 296-316.

ix. Kafayat, A. (2014). Interrelationship of biases: Effect investment decisions ultimately. Theoretical and Applied Economics, 6(595), 85-110.

x. Lusardi, A.,& Mitchell, O.S. (2014). The economic importance of financial: Theory and evidence.Journal of Economic Literature, 52(1), 1-40.

xi. Lusardi, A., Mitchell, O.S.,& Curto, V. (2010). Financial literacy among the young. The Journal of Consumer Affairs, 44(2), 358-380.

xii. Moten, J.M., Jr. (2011). Examining the disparity in financial literacy between high school seniors of different ethnicities and income level(Doctoral dissertation). Retrieved from ProQuest (Order No. 3489216).

xiii. Moten, J.M., Jr., & Copeland, C.W. (2017). Chapter 17. In H.K. Baker, G. Filbeck, & V. Ricciardi (Eds.),

xiv. Financial behavior, players, services, products and markets. New York City, NY: Oxford University Press.

xv. Onsomu, Z.H. (2014). The impact of behavioralbiases on investor decisions in Kenya: Male vs female. International Journal of Research in Humanities, Arts and Literature, 2(6), 87-92

xvi. Potrich, A.C.C, Viera K.M.,& Kirch, G. (2015). Determinants of financial literacy: Analysis of the influence of socioeconomics and demographic variables. Revista Contabilidade & Financas, 26(69), 362-377. DOI: 10.15490/1808-057x201501040

xvii. Robb, C.A.,& Woodyard, A.S. (2011). Financial knowledge and best practice behavior. Journal of Financial Counseling and Planning,22(1), 60-70.

xviii. Silgoner, M., Greimel-Furhrman, B., &Weber, R. (2015). Financial literacy gaps ofthe Austrian population. Monetary Policy & the Economy, Q2/15, 35-51.

xix. Statman, M., Thorley, S., & Vorkink, K. (2006).Investor overconfidence and trading volume. Review of Financial Studies, 19(4), 1531-1565.

xx. Trehan, B.,& Sinha, A.K. (2014). A study of existence of overconfidence biases among investors and its impact on investment decision. ELK Asia Pacific Journals – Special Issue, 1-15.